Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	PR Docket No. 92-235

To: The Commission

COMMENTS OF THE
UTILITIES TELECOMMUNICATIONS COUNCIL

Jeffrey L. Sheldon
Sean A. Stokes
Thomas E. Goode

UTILITIES TELECOMMUNICATIONS COUNCIL
1140 Connecticut Avenue, N.W.
Suite 1140
Washington, D.C. 20036
(202) 872-0030

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SUMMARY

UTC applauds the FCC's initiative to make more effective and efficient use of the bands below 512 MHz through the introduction of more spectrally-efficient technologies and coordination/licensing procedures. Unfortunately, many of the proposals contained in the NPRM appear to confuse simplicity with efficiency, and sacrifice the distinctive attributes and requirements of individual private radio users in favor of "off-the-shelf," one-size-fits-all engineering.

Utility telecommunications potentially affect every person and every geographic area in the nation. Mobile radio is critical to the maintenance of safe and reliable public utility service. The health and safety benefits inherent in utility use of private land mobile radio dictates that the FCC should proceed judiciously in making any policy or technical changes that could impair the ability of utilities to effectively and efficiently use their telecommunications systems.

The most rational and manageable approach to frequency coordination is to pursue a limited consolidation of "like services" and those services that have historically shared spectrum. Under such an approach the Commission could develop 5 consolidated pools: Public Safety; Public Service Industrial; Special Industrial; Land Transportation; and Business. The FCC

should introduce competition into frequency coordination by allowing applicants in any consolidated pool to use any of the certified coordinators in that pool.

There exists a strong need for utility mutual aid channels for disaster restoration and other emergency situations. Accordingly, UTC urges the FCC to designate at least two channels or channel-pairs in the VHF and UHF bands for public service mutual aid use.

UTC adamantly opposes the Innovative Shared Use (ISU) proposal. Given the recognized need for additional internal private land mobile spectrum the FCC should not reallocate from utilities and other "non-commercial" users a significant number of channels in order to promote commercial, private carrier operations.

UTC considers the FCC's proposed two-step transition plan in both the VHF and UHF bands to be ill-advised, based on current and projected developments in radio technology, as well as

band, and the general LMCC "Consensus Plan" for introducing new channels in the UHF band. However, UTC proposes a slight modification to both of these plans to allow greater flexibility in non-congested rural areas.

The Exclusive Use Overlay (EUO) process should be implemented to afford exclusivity. However, the FCC must provide more flexibility in its regulations regarding EUO so as to permit: different licensees to obtain different size EUO areas; public safety systems not operating in the Public Safety Radio Services pool to be eligible for EUO and to be notified of EUO applications through the "public safety" approaches in the proposed EUO rules; the protection of mobile-only systems through EUO and the protection of EUO systems from new mobile-only systems; and a non-licensee applicant for EUO to obtain a temporary licensing freeze. The FCC should also provide that those seeking to be notified of EUO applications as "preferred existing licensees" must register with the FCC.

UTC opposes the FCC's proposal for uniform power/height limits for Private Land Mobile Radio Systems. These limits are unrealistic for the wide area systems needed by utilities and natural gas pipeline companies to cover their service areas. If any regulations are needed to restrict overly high powered systems, UTC supports LMCC's proposal for "safe harbor" tables of permissible power/height combinations, together with an option

for the applicant to submit coverage contours if its system would require greater power than would be provided under the tables. Frequency coordinators should have additional authority to request from applicants all information necessary to review these showings.

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Pursuant to Section 1.415 of the Commission's Rules, the Utilities Telecommunications Council (UTC) hereby submits its comments with respect to the Notice of Proposed Rulemaking (NPRM), 7 FCC Rcd 8105 (1992), in the above captioned matter.[1/]

I. INTRODUCTION AND BACKGROUND

UTC is the national representative on communications matters for the nation's electric, gas, water, and steam utilities, and natural gas pipelines. Approximately 2,000 utilities and pipelines are members of UTC, ranging in size from large combination electric-gas-water utilities serving millions of customers to small rural electric cooperatives

and water districts serving only a few thousand customers. UTC is also the Federal Communications Commission's (FCC) certified frequency coordinator for the Power Radio Service. All utilities depend upon reliable and secure communications facilities in carrying out their public service obligations. In order to meet these communications requirements, utilities and pipelines operate extensive private land mobile radio systems.

By this NPRM the Commission proposes historic changes in the way utilities and all other private land mobile radio (PLMR) licensees use spectrum below 512 MHz. The proposed changes are intended to revise the regulatory and technical environment below 512 MHz in order to promote the introduction of more efficient technologies and encourage better overall spectrum management. So extreme are the proposed changes that the FCC contemplates replacing Part 90 of its rules with a new Part 88.

This proceeding evolved from the FCC's earlier "spectrum refarming" Notice of Inquiry (NOI), Docket 91-170, in which the FCC requested comment on many options by which it could restructure the use of PLMR spectrum. UTC filed extensive Comments and Reply Comments in the "spectrum refarming" proceeding, and intends to be an active participant in this docket. UTC is therefore

pleased to have this opportunity to comment on the Commission's proposals.

II. UTILITY LAND MOBILE OPERATIONS

Mobile radio communications is the vital link in virtually all utilities' communications systems. Mobile radio is used for gas and electric field crew dispatch, electric nuclear plant security and emergency response communications, hydraulic dam flood warning siren and alarm communications, emergency response to gas leaks and electrical outages, and security and safety for transmission line crews and meter readers.

Priority use of mobile radio frequencies involves the efficient and timely dispatch of emergency crews to ensure restoration of service to customers, removal of hazards to persons or property (e.g., downed electric transmission lines or ruptured natural gas mains), coordination of the stringing electric transmission wire along busy urban thoroughfares -- enabling close coordination of crews that could be separated by over 2000-3000 foot distances -- and issuance of orders and authorizations in connection with system failures, or overloads requiring immediate attention. Some states require the immediate dispatch of a properly trained employee to any customer-reported

emergency within a set time frame (often 60 minutes) after

dramatic increase in the need for mobile data applications in the future.

Unfortunately, the spectrum that is currently available for these and other vital private land mobile communications systems is extremely congested in most of the major urban areas of the country. Moreover, the demand for new private land mobile radio licenses shows no signs of abating. According to the FCC's Annual Reports the number of licensed PLMR radio stations has increased over 400 percent since 1968, and has increased at a rate of 10 percent annually over the last five years.

This growing saturation of the available private radio spectrum has resulted in a shortage of available channels in many areas of the country. Existing systems are having trouble securing channels on which they can expand and prospective licensees are finding it difficult to commence operations. Moreover, as the number of PLMR licenses increases there is often a corresponding degradation in the quality of the radio transmissions, which in turn degrades the reliability of the services that these private communications systems support -- an unacceptable situation for critical services such as utilities.

UTC therefore applauds the Commission's initiative to make more effective and efficient use of the bands below 512 MHz through the introduction of more spectrally-efficient technologies and coordination/licensing procedures. Unfortunately, many of the proposals contained in the NPRM appear to confuse simplicity with efficiency, and sacrifice the distinctive attributes and requirements of individual private radio users in favor of "off-the-shelf," one-size-fits-all engineering.

In crafting regulations the Commission must be careful to consider the significant operational and economic impact of proposed changes on existing licensees. The utility industry currently has approximately 46,000 fixed base and repeater transmitters licensed in the Power Radio Service. Assuming base station costs of approximately $20,000 per transmitter, and assuming an installed cost of $1000 per mobile and conservative loading of 50 mobiles per channel, it is estimated that utilities have an investment of over $3.2 billion in land mobile transmitting equipment alone.[3/] These systems are critical to the maintenance of safe and reliable public utility service. Mobile and fixed communications systems operating in the PLMR spectrum are also key components in innovative energy efficiency

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[3/] These figures do not include investment in land, towers, buildings and related proceedings.

techniques, conservation programs and environmental protections implemented by utilities.

Thus, any regulations that would dramatically restructure the private radio bands below 512 MHz must provide a graceful transition that: (1) allows amortization of existing equipment; and (2) ensures the operational stability of existing and anticipated utility communications capabilities.

III. SERVICE POOLS AND FREQUENCY COORDINATION

A. Consolidate Radio Services On Basis Of Historical Sharing

In the NPRM the FCC proposes a consolidation of the current 19 private radio services into 3 broad categories: (1) Public Safety; (2) Non-Commercial; and (3) Specialized Mobile Radio (SMR), plus a General Category Pool encompassing all of the services.[4/] While UTC agrees that there exists a need for service consolidation in order to promote better spectrum utilization, UTC considers the Commission's recommendation as too extreme and ill-advised.

The Commission's proposal amounts to a "least common denominator" licensing approach that assumes all "non-commercial" radio services have equivalent operating

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[4/] NPRM, 7 FCC Rcd 8111.

requirements. However, in reality there are many important distinctions between the licensees in the various service categories that would comprise the Non-Commercial Service Pool. For example, the land mobile communications requirements of utilities -- restoring service to the public and protecting health and safety -- are generally more critical than other non-commercial licensees and thus require priority access to spectrum. In codifying guidelines for the FCC to follow in allocating spectrum, Congress specifically recognized the unique importance of utility communications, advising in the accompanying Senate Report that:

> The FCC should first attempt to meet the requirements of those radio users which render important services to large groups of the American public such as governmental entities and utilities, rather than the requirements of users which would render benefits to relatively smaller groups.[5/]

Moreover, the vital nature of utility telecommunications necessitates a higher level of interference-free operation than is required by many other categories of non-commercial

would be to form pools through the combination of like radio services.[6/] However, the reality is that PLMR channels are already shared among services and it would be difficult to reallocate channels among the existing radio services in order to create contiguous blocks of spectrum.

In light of the current shared radio environment, UTC suggests that the most rational and manageable approach is to consolidate radio services based on historical channel sharing and where consolidation will lead to radio pools having contiguous blocks of spectrum; for example, consolidate the Power, Petroleum, and Forest Products Radio Services, which already share many channels in the 153, 158, 451, and 456 MHz bands into a "Public Service Industrial Radio Service Pool."[7/] This approach would seemingly cause the least disruption because it would recognize that virtually all channels are already shared among some services, either by rule or through intercategory sharing, thus indicating an ability to "co-habitate." The approach suggested by UTC is similar to the

Radio (NABER) endorses in its early-filed "White Paper," wherein NABER supports "a consolidation of services currently sharing 150 MHz and/or 450 MHz spectrum.[8/] Moreover, these services are similar in that the licensee generally have expansive service territories or unique operating requirements affecting safety of life and property. Finally, consolidation of services along these lines would permit the creation of contiguous blocks of channels that could be "stacked" for systems requiring higher data throughput.

Under a limited consolidation approach that seeks to combine "like services" and those services that have historically shared spectrum, the Commission could develop 5 consolidated pools: Public Safety; Public Service Industrial; Special Industrial; Land Transportation; and Business.

UTC does not support the creation of a General Category Pool from new channels obtained through channel splits. The creation of a General Category Pool would limit the ability of individual pools to control and coordinate the effective use of their channels, and would act as a disincentive for entities to implement more efficient technologies. Rather than creating a General

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[8/] NABER, p. 8.

Category Pool, UTC believes that newly created private land mobile channels should be retained for use by the service pools from which they were derived, with a procedure available for designating some of these channels for special purposes, such as mutual aid. Interpool coordination would remain available as an effective mechanism to maximize channel usage.

B. Frequency Coordination Should Be Open To All Certified Coordinators For A Given Pool

As part of its service consolidation plan the FCC proposes to introduce competition into frequency coordination by allowing applicants in any given pool to use any of the certified coordinators in that pool.[9/] UTC supports this proposal provided that the Commission adopts service consolidations along the lines suggested by UTC. However, adoption of the FCC's three broad service categories would lead to "coordinator shopping" wherein pricing would outweigh engineering and interference considerations; ultimately relegating the quality of the private land mobile radio environment to that found in the Citizens' Band. As the Commission noted in its Report and Order (R&O) establishing the current frequency coordination system, coordinator shopping could thwart the quality of frequency recommendations which is the primary objective of

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[9/] NPRM, 7 FCC Rcd 8111-12.

the coordination process.[10/] Moreover, the ability of a single coordinator to offer service to a broad range of eligibles with no particular expertise in the specific coordination requirements of the individual service categories would eviscerate the decision of the Commission and Congress that frequency coordination is best provided through the use of coordinators that are representative of the individual licensees.[11/]

Given the adoption of a limited form of consolidation as proposed by UTC, the Commission could introduce the benefits of competition to frequency coordination while at the same time preserving a high degree of representation among the coordinators. However, even under UTC's approach interservice coordination would be required among the coordinators in each pool unless and until standards are developed on frequency coordination and there is a common database. For example, in an effort to protect against interference UTC has been requesting that all Power Radio licensees provide the geographic coordinates for control stations with antennas below 20 feet even though the

coordinator were allowed to coordinate a frequency in the Power Radio Service and did not alert UTC or have access to UTC's database there is a strong likelihood that the coordinator would place a new system on top of an existing control station. Accordingly, UTC urges the FCC to encourage coordinators in the same pool to work together toward the development of coordination standards and streamlined procedures for information exchange.[12/]

C. Vertical Loading Should Not Be Mandated

The FCC proposes that instead of giving each applicant the "best" assignment possible, coordinators should strive to retain as large a spectrum reserve as possible. For example, the Commission argues that coordinators should attempt to place co-channel systems as close geographically as possible.[13/] Similarly, the FCC suggests that coordinators should attempt to "stack" small users on the same channel (vertical loading), rather than assigning separate channels (horizontal loading).[14/]

[12/] In Section VI.A.1., below, UTC endorses the Land Mobile Communications Council's (LMCC) proposal for a table of recommended co-channel separation distances. This would be but a first step in developing more consistent guidelines for the frequency coordination process.

[13/] NPRM, 7 FCC Rcd 8112.

[14/] NPRM, 7 FCC Rcd 8112.

UTC opposes this stacking concept for all but the smallest radio users, and considers it to be particularly ill-suited to the critical radio operations of public service utilities. While vertical loading may be appropriate for Business or other mass-user services, it could create unacceptable levels of interference for entities that serve vital public safety and public service functions. Moreover, given the priority that the protection of health and safety deserves, the FCC should maintain a policy under which coordinators strive to provide public safety and public service licensees with the best assignments possible.

To encourage maximum frequency reuse, UTC recommends that the FCC define what constitutes a small user (e.g., less than 10 mobiles per channel); and then allow the applicable frequency coordinators the flexibility to determine whether to apply vertical loading to small user systems. In all cases, the licensee should be able to opt out of vertical loading if it can demonstrate that failure of the system would create an imminent danger to the public safety.[15/]

[15/] This would be consistent with Sections 88.187(d) and 88.191(d).

D. **Utility Mutual Aid Channels Should Be Designated**

Under the existing Private Land Mobile Radio Rules there are no channels specifically designated for "mutual aid" among utilities. There exists a strong need for utility mutual aid channels for disaster restoration and other emergency situations. For example, after Hurricane Andrew a large number of utilities in the Southeastern United States sent work crews to Florida to help in the restoration of electric, gas and water service. However, the majority of these crews could not readily communicate with one another to coordinate activities because of a lack of common operating frequencies. Hurricane Andrew is not an isolated incident. Every year there are hundreds of storms and natural disasters that require intercommunications between and among neighboring

recovery concerns that led the FCC to adopt Public Safety mutual aid channels.[16/]

Accordingly, UTC requests that the FCC designate at least two channels or channel pairs in the VHF and UHF bands for public service mutual aid use. The proposed mutual aid provisions contained in Section 88.1029 should be amended to authorize the use of specifically designated channels within the Public Service Industrial Pool for use by Public Service licensees on a priority basis.[17/] UTC suggests that under the Rules, other uses may be authorized on these channels, but that these other, non-emergency uses, be relegated to secondary status if the channels are required for mutual aid operations. Such a requirement would allow for efficient use of the spectrum during non-emergencies. A secondary status provision should not impose an undue burden on users since they are likely to be among the "host" public service utilities during an emergency situation.

In a related matter, the "power pool" low-band channels (37.60 MHz and 37.84 MHz) are not designated as such in Part 88. Instead, proposed Section 88.617 lists

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[16/] Report and Order, GEN. Docket 87-112, FCC 87-359 (released January 15, 1988).

[17/] UTC intends to submit a more detailed plan for the creation of utility mutual aid channels at a later date.

these channels as among the generic non-commercial radio service frequencies. These channels are used to provide